Chapter 2: Getting Ready to Use Enstore

2.1 Setting up Access to Enstore

2.1.1 Initial Steps for All Users

1) Find out what your volume quota is from your experiment's Enstore administrator, and make sure you reserve what you need, according to your experiment's procedures. If you need an individual quota, use the online form *Interim Annual Tape Request Form* at `http://www.fnal.gov/cd/forms/tapereq.html` to request it.

2) Find out what area in `/pnfs` namespace your experiment uses (i.e., what your storage group is).

3) Read about file families (see section 1.3.1 *File Family*), and find out from the people in your experiment responsible for implementing Enstore how file families have been configured for your experiment. Determine what file family(ies), and hence which subdirectories in `/pnfs` namespace, you want to write to and/or read from.

4) Encp uses whatever routing the client system or network administrator sets between the client system and the Enstore system for data transfers. For information, see *Control of Ethernets on Client Systems* at `http://www-stken.fnal.gov/enstore/enstoreConfHelp.html`. (Also located in the same place on the www-cdfen and www-d0en web servers.)

5) Navigate to the Enstore monitoring system web page, titled *Fermilab Mass Storage System*, at `http://hppc.fnal.gov/enstore/`. Select the Enstore system that your experiment uses, and browse the system information for it. You might want to bookmark this page.

6) Subscribe to the *stk-users@fnal.gov* listserv mailing list for announcments about Enstore and the STKEN Enstore system. D0 users, subscribe to *d0en-announce@fnal.gov* and *sam-admin@fnal.gov.* CDF users, subscribe to *cdfdh_oper@fnal.gov.*

2.1.2 Further Steps for On-site Users Only

1) Make sure your node and network can provide adequate throughput. Enstore's current maximum speed is 10Mb/sec.

2) See if your experiment's `/pnfs` area is mounted on your machine, by using standard UNIX utilities like **`cd`** and **`ls`**. If it's already mounted, skip to step (6). If not, continue.

3) Check to see if authorization has been granted to mount the `/pnfs` area on the machine you plan to use. To do so:

   a) Go to the *PNFS Exports Page*[1], at `http://www-<xyz>en.fnal.gov:/enstore/pnfsExports.html`, where `<xyz>` is one of `stk`, `d0` or `cdf`, depending on the Enstore system used by your experiment.

   b) Scroll down to the *PNFS ExportList Fetch Begin: <date/time>* area, and look for your node and `/pnfs/storage-group` area. If they're listed, authorization has been granted; skip to (5). If not, continue.

4) Notify your experiment's Enstore liaison that you need authorization to mount the `/pnfs` area on the machine you plan to use. He or she will need to send your request on to *enstore-admin@fnal.gov.*

5) Once authorization has been granted, mount the `/pnfs` area on your machine if you have root permission, or send a request to the machine's system administrator to mount it. To mount the area yourself, edit the `/etc/fstab` file and add a line with the following strings (they should appear all on the same line in the file; we separate them into six lines here for clarity):

```
remote_enstore_server_node:enstore_server_directory
/pnfs/local_mount_point
mount type
comma_separated_attributes
0 (means no dump of filesystem)
0 (means no fsck checks at boot time)
```

   For example:

```
stkensrv1:/E872 /pnfs/E872 nfs user,intr,bg,hard,rw,noac 0 0
```

1. Note that you can also get to the *PNFS Exports Page* from the *Fermilab Mass Storage System* web page at `http://hppc.fnal.gov/enstore/` via the following path: Under *Installed Enstore Systems*, click the system your experiment is using. On the *Enstore System Status* page, click "Log Files". Under *User Specified Log Files*, click "PNFS Export List" to arrive at the *PNFS Exports Page.*

Usually, `local_mount_point` is the same as `enstore_server_directory`. Make sure that `local_mount_point` exists!

6) Install UPS/UPD on your system (recommended). See Part III of the UPS/UPD manual at `http://www.fnal.gov/docs/products/ups/ReferenceManual/parts.html#partIII`.

7) Install the **encp** product on your machine (see section 2.2 *Installing Encp*).

2.1.3 Further Steps for Off-site dCache Users Only

In order to establish the ftp service on dCache, you must first:

- have a valid Fermilab UNIX account (UID and GID)
- have a Kerberos principal for FNAL.GOV (if Kerberized access is required)
- ask your experiment's Enstore liaison to register you for the service; you'll need to provide the following information to the liaison:
  - · username
  - · UID and GID
  - · storage group
  - · root path under `/pnfs/<storage_group>/...`
  - · if applying for Kerberized door, provide Kerberos principal(s)
  - · if applying for weak door, choose a password. (But don't tell it to the liaison! For security reasons, call 1-630-840- and give it personally over the telephone .)
- install the **kftp** product from KITS (optional; useful for running scripts to transfer files)

2.2 Installing Encp

To install the **encp** product from KITS using UPD, run:

```
$ setup upd
$ upd install -G "-c -q <xyz>" encp
```

where **`xyz`** stands for one of the Enstore systems. Currently, these include:

`stken` for general Fermilab users

`d0en` for D0 users

`cdfen` for CDF users

For example, a CDF experimenter would type:

```
$ upd install -G "-c -q cdfen" encp
```

2.3 Installing Kftp

To install the **kftp** product from KITS using UPD, run:

```
$ setup upd
$ upd install -G "-c" kftp
```